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DOI: https://doi.org/10.1159/000330065

Viewpoint

Gerontology

Gerontology 2012;58:188–192
DOI: 10.1159/000330065

Received: February 18, 2011
Accepted: June 16, 2011
Published online: October 19, 2011

Economic Crises and the Elderly

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Key Words
Ageing workforce · Demographic change · Organizational performance · Age-productivity effects · Judges' performance

Abstract
Economic crises in the last decades have swept elderly workers more than younger workers out of employment. But now the tide is turning. In affluent societies, elderly workers will have more opportunities of being employed in meaningful and well-paid jobs than ever before. On account of demographic changes, fewer (younger) workers will be around, and most of the reasons that in the past have induced employers to lay off older rather than younger workers will disappear. Future employment strategies will have to focus more on an optimal age mix and on benefitting from the full potential of the elderly.

The Past: Economic Crises and Employment of the Elderly

In the past, employers who needed to lay off workers in an economic crisis have relied heavily on dismissing older rather than younger workers [1]. A number of factors have contributed to that pattern.

First, in many jobs elderly workers tend to be less productive than younger workers. The most obvious example is hard manual labor in manufacturing. In these jobs, elderly workers simply have a disadvantage compared to younger workers because physical strength declines significantly with age [2–4]. Elderly workers also tend to be less productive in certain non-manual tasks, in tasks that involve learning, problem-solving, and quick information processing. Individual performance in these cognitive skills typically declines from an age of around 50, though with considerable interpersonal variation [3, 5, 6]. A disadvantage of older workers in learning skills is particularly problematic during an economic crisis because that is a period of creative destruction. It is then that companies invest in new technology and introduce new processes, all of which need to be combined with new worker skills and knowledge. During the 1990s, for example, computer technologies entered many workplaces in manufacturing and services and revolutionized traditional processes. In such a situation, elderly workers' skills and knowledge may be outdated and they may find it more difficult than younger workers to catch up on the new requirements through learning. Overall, it was probably rational for employers, when faced with the need to reduce their workforces, to retire older workers: both because of the elderly workers' lower physical strength in more traditional sectors and because of their inferior learning skills across a whole range of sectors.

Second, even abstracting from productivity disadvantages of the elderly, it was often rational for employers to hold on to younger workers and dismiss elderly workers.

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This is because from an economic perspective employers perceive the employment relationship as an investment and anticipate the costs and returns of employing workers over their career. Workers need to be trained in skills and knowledge that are often firm-specific. Training in these skills must be acquired inside the company and be financed at least in part by the employer. Since elderly workers are close to retirement, employers may find it difficult to recover the costs of investment in training. Faced with a crisis, employers prefer to dismiss trained elderly workers and to retain trained younger and in particular prime age workers because this also upholds the option for firms to benefit from the future returns to training acquired by the younger workers once the crisis is overcome. This effect is made worse by the seniority-based pay system common in many companies. Pay increases with age, thus rendering elderly workers more costly than younger workers [7, 8]. The problem of a wage bill rising with age also affects many public administrations that operate seniority-based pay systems. Hence, public employers also tend to be interested in letting go elderly rather than younger workers, though dismissals are often restricted because of legal regulations.

Finally, reducing headcounts via early retirement instead of dismissing a number of select workers was often considered as involving lower social costs. Older workers entered retirement a few years earlier, and given the hard labor involved in many jobs and the problematic health conditions that older workers were often in, early retirement was welcome by many older workers too [9, 10]. By contrast, dismissing younger and particularly prime age workers often resulted in higher spells of unemployment for these workers and was therefore resisted by the workers and the general public. Governments have therefore often supported employers with various legal reforms or subsidies in order to foster early retirement and concentrate layoffs on older workers. This policy conferred the additional benefit for governments of keeping the official unemployment figures down.

Overall, the economic crises that have hit western societies in the last decades have led to massive waves of early retirement. The actual average retirement age is therefore much lower than the formal retirement age. Germany is a good case in point. Despite a formal retirement age of 65, average retirement was around 60 years during the 1990s [11]. Early retirement and dismissals of elderly workers dramatically changed the workforce composition inside German companies. In a representative study for the year 2002, it was found that around 40% of firms did not employ a single worker older than 50 years of age [12]. Though that may be an extreme example, comparative evidence points to similar developments in other industrialized economies [13].

The Present Situation: Elderly Workers Are Coming Back

The situation is gradually changing. Not only has early retirement become too expensive for the social security system and taxpayers, but as baby boomers are nearing retirement, skilled workers will also become rare and the productivity potential of older generations will be needed in the workforce to stay competitive and ensure economic well-being of future generations. Accordingly, public policies on early retirement have started to reverse in many countries [14]. Denmark is but the latest example discussing an increase in the official retirement age to 70 years.

It is less obvious that early retirement and dismissals of elderly workers may have also incurred hidden costs to companies, costs that have long been overlooked by employers and that will now harm many companies' competitiveness unless policies towards the elderly are reversed quickly. Employers may have ignored the downsides of early retirement and dismissals of elderly workers because scientific knowledge about the links between age and productivity is limited. Many empirical studies in the past have examined individual age-productivity profiles in laboratory settings. Even those studies that have looked at task performance in the field, still usually considered individual rather than group performance as an outcome of aging processes. But in the world of work, elderly workers almost always perform their job in groups composed of both younger and elderly workers. Whether a high share of elderly group members is good or bad for performance depends on the division of labor within a group, the degree of interdependencies between individual tasks, and the type of the overall task requirements. These factors have only recently attracted attention in research. Appropriate scientific designs are field studies that focus on performance on the job and look at the demographics or composition of workforces or work groups. The evidence on these questions is still sketchy but nonetheless instructive.

A number of studies have looked at individual age-productivity profiles: the link between age and individual job performance. Although many of the findings in these studies point to a clear disadvantage of older workers, a comprehensive meta-analysis already found age to

be unrelated to core task performance across a whole range of studies [15]. Furthermore, if older workers are at a disadvantage, this may be in certain jobs but not in others. In a comprehensive review of the literature, Skirbekk [6] found that 'productivity reductions at older ages are particularly strong for work tasks where problem solving, learning and speed are needed, while in jobs where experience and verbal abilities are important, older individuals' maintain a relatively high productivity level'. Perhaps the widespread stereotype according to which older workers are less productive is largely unwarranted [16]. This impression is supported if we add to the picture studies that have examined how the ageing of teams or work groups affects organizational performance. Here, the results on the effects of average age and age heterogeneity on performance are inconclusive so far [17, 18]. Hence, it is not at all evident that elderly workers or teams with a high share of elderly workers need to be less productive.

Despite this hopeful sign, the inconsistency of the available evidence is not satisfactory. Though the age effect seems insignificant on average, some studies show a positive, others a negative effect. One reason for that mix can be found in two key design features of previous studies. They usually compared productivity or performance across a whole range of sectors and handled performance as one-dimensional. A number of more recent studies have overcome that limit and have sought to produce more specific findings by distinguishing different types of sectors or activities, and by breaking down performance into several dimensions. Hence, the recent studies have overcome sweeping generalizations by producing itemized findings on age-productivity links.

The recent studies drew on the extant psychological, medical, and gerontological literature on ageing effects. Three types of capabilities that individuals working in an organization may utilize in the organization's production process were distinguished: physical productivity, fluid mechanical intelligence, and crystalline (pragmatic) intelligence [3, 5, 6]. It is the mix of the capabilities needed in certain tasks that influences whether age, or average age, exerts a positive effect on organizational productivity. More particularly, as elderly workers hold comparative advantage (or a relatively low disadvantage) in crystalline intelligence, they will be important for tasks in which experience and wisdom must be represented in the teams' decision making and production processes. For example, the tacit knowledge of elderly skilled, manual workers in a manufacturing context may be difficult to match by younger workers. Similarly, elderly engineers may be more able to steer innovative projects based on their rich working and life experience, and elderly service workers will have acquired an empathy that enables them to cope with customers better than younger workers could.

That idea has been tested with quantitative data in two different ways. Backes-Gellner and Veen [19] extended the work by Spitz-Oener [20] and Warr [3] who distinguished occupations with and without a productivity discount of elderly workers. Backes-Gellner and Veen drew on a representative employer-employee sample for Germany and compared how differences in age heterogeneity affect the productivity of firms and focused on differences in productivity outcomes depending on the firm's overall types of tasks. After separating different types of tasks through an industry classification, they regressed productivity on a whole range of variables usually employed to explain productivity. They found that for firms with more routine types of tasks, age heterogeneity decreases productivity, other things including experience and incentives being equal, and that for firms with more innovative and creative types of tasks, age heterogeneity increases company productivity. Thus, more age heterogeneity appears to exert a positive effect on productivity in companies that engage in more creative but not in routine tasks. According to their results, an increase in age heterogeneity of 10% (which is equal to the range of age heterogeneity in the time period they observe) increases the annual company productivity by approximately 3.5% in companies with creative tasks. In comparison to average GDP growth rates of about 1% in the same period, this effect is large and economically significant. Age composition and organizational demography in general are therefore an important source for productivity growth, particularly in innovative companies with creative tasks. For innovative industries and societies, the age composition of their companies' workforces is an important source of their future competitiveness. As an important by-product of their analysis, Backes-Gellner and Veen also found that organizational productivity – unlike individual productivity – does not necessarily decline with the average age. When age diversity and type of tasks are controlled for, an increase in average age has a positive effect on company productivity. With demographic changes rapidly approaching, these results are also of the utmost importance for organizational performance. Other recent studies are more case-based but present similar evidence. For example, Wegge at al. [21] showed that team performance in one large public organization was influenced positively by age diversity only when the tasks performed

were complex. Similarly, Kearney et al. [22] and Kearney [23] showed that age diversity interacted with leadership style and motivation when influencing team performance.

All these recent studies shared a key assumption – they all implicitly treated team or organizational performance as one-dimensional. In a recent study, Schneider [24] and Backes-Gellner et al. [25] departed from that assumption. By breaking up performance into several dimensions, they produced new and important insights. Their study focused on professional judges as an example and examined how the average age of courts in Germany affects court performance on two different dimensions of court performance, quantity and quality. The courts are an interesting setting because teamwork does not affect performance. Data on different dimensions of performance can be constructed from official sources. Furthermore, courts are among the few organizations that actually employ elderly workers. The effect of judges' age on their performance has been studied before (e.g. Posner [2]), but no study has systematically distinguished quantitative and qualitative performance. Quantitative performance was measured as the number of complaints handled by each of 19 Labour Courts of Appeal. Qualitative performance was measured as the share of decisions of these 19 courts that were not overturned by a higher authority, the Federal Labour Court in Germany.

The findings are interesting and cast into doubt the widespread stereotype of a performance disadvantage of elderly workers. In multiple cross-section time-series regression analyses, a number of possible intervening variables were included, in particular the average job experience of judges, their possible career incentives, 'fixed' organizational effects, and the number of incoming court cases. After controlling for these, average age was still found to be related differently to quantitative performance compared to qualitative court performance. In particular, it was found that the share of judges older than 59 has a statistically significant negative effect on quantitative court performance. An increase in the share of judges older than 59 by one standard deviation (18.4) was estimated to lead to a reduction in processed cases – the measure of quantitative performance – by 2.76%. Conversely, the share of judges younger than 50 was found to be negatively linked to qualitative court performance. An increase in the share of judges younger than 50 years of age by one standard deviation was estimated to lead to a 9.76% reduction in the confirmation rate, the measure of qualitative performance. The findings are plausible. They indicate that younger judges excel in quantitative performance because this involves accurate and speedy information processing, for which younger people are at an advantage. Conversely, older judges excel in qualitative performance because this involves wisdom and experience, both of which increase with age.

This study, then, also indicates that it is important for employers to consciously manage the age composition of their workforce. Younger workers should work alongside elderly workers. This strategy is likely to be more productive than solely employing and training younger talents.

The Future: Bright Prospects for the Elderly Working alongside the Younger

Given these recent research results and changing economic conditions in industrialized affluent societies, we expect the prospects for elderly workers to find meaningful, well-paid employment over and above the age of 65 to be bright – at least much brighter than ever before [26]. Industrialized countries have increasingly specialized within the global division of labor into industries that are based on innovation and creativity. Within these industries, companies usually pursue high-quality strategies for which a price markup can be achieved. It is this sector of the economy in which cross-functional teams, quality circles, and semi-autonomous teams play an important role. These teams tend to perform better if elderly and younger workers cooperate. Furthermore, elderly workers tend to be competitive vis-à-vis younger workers in terms of individual productivity if wisdom and experience are important to excel in the task. This is often the case for the many activities in which industrialized economies now specialize and which target at superior product or service quality.

The advantages of older workers have been overlooked by both scientists and managers alike, with fatal effects during the last decades. In many firms, the cohort of older workers is missing and soon whole cohorts of baby boomers are going to retire. In order to retain their experience and wisdom and in order to be able to compose teams in a heterogeneous way, many firms are increasingly interested in prolonging the working life of the elderly, for example via job sharing arrangements or part-time retirement – and of course lifelong learning measures [27]. That will also relieve to some extent the strain which the ageing of industrial societies is imposing on the pension system. Hence, the comeback of the elderly workers will afford a benefit on private and public organizations and on the larger society alike.

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